

**MICHIGAN DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION - STANDARD SPECIFICATION
P-603**

Bituminous Tack Coat

DESCRIPTION

1.1 This item shall consist of preparing and treating a bituminous or concrete surface with bituminous material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

2.1 Bituminous Materials. The bituminous material shall be either cutback asphalt, emulsified asphalt, or tar and shall conform to the requirements of Table 1. The type, grade, controlling specification, and application temperature of bituminous material to be used shall be specified by the Engineer.

TABLE 1
BITUMINOUS MATERIAL

Type and Grade	Specification	Application Temperature (°F)	Application Temperature (°C)
Emulsified Asphalt			
SS-1, SS-1h	ASTM D 977	75 – 130	25 - 55
CSS-1, CSS-1h	ASTM D 2397	75 – 130	25 – 55
Cutback Asphalt			
RC-70	ASTM D 2028	120 – 160	50 - 70
Tar			
RTCB 5, RTCB 6	AASHTO M 52	60 – 120	15 - 50

CONSTRUCTION METHODS

3.1 Weather Limitations. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is above 60°F (15°C). The temperature requirements may be waived, but only when so directed by the Engineer.

3.2 Equipment. The Contractor shall provide equipment for heating and applying the bituminous material.

The distributor shall be designed, equipped,

maintained, and operated so that bituminous material at even heat may be applied uniformly on variable widths of surface at the specified rate. The allowable variation from the specified rate shall not exceed 10 percent. Distributor equipment shall include a tachometer, pressure gauges, volume-measuring devices or a calibrated tank, and a thermometer for measuring temperature of tank contents. The distributor shall be self-powered and shall be equipped with a power unit for the pump and full circulation spray bars adjustable laterally and vertically.

A power broom and/or blower shall be provided for any required cleaning of the surface to be treated.

3.3 Application of Bituminous Material.

Immediately before applying the tack coat, the full width of surface to be treated shall be swept with a power broom and/or airblast to remove all loose dirt and other objectionable material.

Emulsified asphalt shall be diluted by the addition of water when directed by the Engineer and shall be applied a sufficient time in advance of the paver to ensure that all water has evaporated before any of the overlying mixture is placed on the tacked surface.

The bituminous material including vehicle or solvent shall be uniformly applied with a bituminous distributor at the rate of 0.05 to 0.15 gallons per square yard (0.24 to 0.72 liters per square meter) depending on the condition of the existing surface. The type of bituminous material and application rate shall be approved by the Engineer prior to application. Following the application, the surface shall be allowed to cure without being disturbed for such period of time as may be necessary to permit drying out and setting of the tack coat. This period shall be determined by the Engineer. The surface shall then be maintained by the Contractor until the next course has been placed. Suitable precautions shall be taken by the Contractor to

protect the surface against damage during this interval.

3.4 Bituminous Material-Contractor's Responsibility.

Samples of the bituminous material that the Contractor proposes to use, together with a statement as to its source and character, must be submitted and approved before use of such material begins. The Contractor shall require the manufacturer or producer of the bituminous material to furnish material subject to this and all other pertinent requirements of the contract. Only satisfactory materials so demonstrated by service tests, shall be acceptable.

The Contractor shall furnish the vendor's certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The report shall be delivered to the Engineer before permission is granted for use of the material. The furnishing of the vendor's certified test report for the bituminous material shall not be interpreted as basis for final acceptance. All such test reports shall be subject to verification by testing samples of material received for use on the project.

3.5 Freight and Weigh Bills. Before the final estimate is allowed, the Contractor shall file with the Engineer receipted bills when railroad shipments are made, and certified weigh bills when materials are received in any other manner, of the bituminous material actually used in the construction covered by the contract. The Contractor shall not remove bituminous material from the tank car or storage tank until the initial outage and temperature measurements have been taken by the Engineer. Copies of freight bills and weigh bills shall be furnished to the Engineer during the progress of the work.

METHOD OF MEASUREMENT

4.1 The bituminous material for tack coat shall be measured by the gallon or ton. Volume shall be corrected to the volume at 60°F (15°C) in accordance with ASTM D1250 for cutback asphalt, ASTM D633 for tar, and Table IV-3 of The Asphalt Institute's Manual MS-6 for emulsified asphalt.

Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

5.1 Payment shall be made at the contract unit price per gallon or ton of bituminous material. This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools and incidentals necessary to complete the item.

Payment will be made under the nomenclature and seven digit number specified in the plans and proposal for each type of bituminous tack coat, as applicable.

The first three digits of any item number for work included under this specification shall be 603, i.e. 603XXXX.

MATERIAL REQUIREMENTS

ASTM D 633	Standard Volume Correction Table for Road Tar
ASTM D 977	Standard Specification for Emulsified Asphalt
ASTM D 1250	Standard Guide for Use of Petroleum Measurement Tables
ASTM D 2028	Standard Specification for Cutback Asphalt (Rapid-Curing Type)
ASTM D 2397	Standard Specification for Cationic Emulsified Asphalt
AASHTO M 52	Tar for Use in Road Construction
Asphalt Institute Manual MS-6 Table IV-3	Temperature-Volume Corrections for Emulsified Asphalts